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SBC Wireless, Inc.
Legal Department
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July 27, 2000

Magalie Roman Salas, Secretary
Federal Communications Commission
445 Twelfth Street, S.W. - TW-A325
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Re: *Ex Parte* Notification - Wireless Telecommunications Bureau Seeks Comments
on New Implementation Deadline for TTY Access to Digital Wireless Systems for
911 Calls - CC Docket 94-102

Dear Ms. Salas:

SBC Wireless Inc. files these *ex parte* comments to give the Commission a better understanding of the processes manufacturers and operators will be going through in developing and deploying TTY Solutions for digital wireless services and the potential problems that may arise. The comments are meant to help educate the Commission on potential issues that could cause delay in the deployment of TTY solutions. The comments are generic in nature and provide a very high level overview of potential problems. They do not include by any means the total range of possibilities. Obviously, some problems may not manifest themselves until the solution is deployed and testing takes place. In addition, the iDEN technology may have specific and unique issues that can only be addressed by companies that handle that technology.

While SBC stated that it would strive to meet the 12/31/01 mandate based on commitments from its vendors, it must be realized that this holds true only if there are no delays in standards development. In addition, the 12/31/01 commitment can only be met, if there are no unforeseen problems in developing and/or deploying the TTY solutions, problems which might not manifest themselves until testing. Thus, the 12/31/01 date is a very aggressive timeline commitment which does not provide for any unknown problems or unexpected issues.

The FCC's TTY mandate must be achieved by all service providers in order that TTY customers can make E911 calls wherever they are located. SBC Wireless will remain aggressive with its compliance efforts but recognizes that uniform timelines are needed across the industry and across technologies. However, it is clear that any mandate that is set must incorporate enough time between release of General Availability (GA) of software and handsets and the mandated date for operators to test and deploy the changes to their network. This normally takes SBC Wireless about six months to complete with full regression testing. Other companies may have differing timeframes depending on

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systems, multiplicity of vendors and resources. While SBC Wireless has taken an aggressive rollout plan, even in a time that usually is considered a moratorium for upgrades to the network, we still caution that any less than six months could compromise the integrity of an operator's network or result in a TTY solution that is not adequately tested or known to be fully reliable.

The table below lists some of the problems that could result in implementation delays and a brief description of each. In certain cases, these are technology specific and are labeled as such. It must be noted that this list is not exhaustive and is provided at a very high level. It is simply impossible to know at this time all of the potential issues that could arise in deploying these solutions.

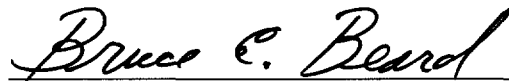
Potential Issue	Brief Comments
Standards Process GSM Centric	<p>If any changes are necessary to the Cellular Text Telephone Modem (CTM) solution for whatever reason in the future, this could cause the standards process to be delayed to incorporate those changes.</p> <p>In addition, if during the balloting process, the CTM solution is not accepted for whatever reason, or if concerns are raised, the standards process could be stalled.</p>
Consumer Testing Approval	<p>SBC Wireless stated in its Comments that consumer testing is vital during the development process of the TTY solutions. This will assure consumer acceptance of any solution as it develops. If, during this process, the consumers are not happy with the results and changes are required, this could delay deployment for an indefinite time.</p>
Complexity	<p>Each solution has its own complexity depending on the technology being discussed. In all cases, it may be required to change out equipment in the network to support these new solutions. This can be a time consuming, expensive and labor intensive task for operators and manufacturers. If this is necessary, companies may face delays resulting from equipment or labor shortages.</p> <p>The time to change out equipment, if necessary, would have to be done concurrently or in addition to the deployment time of the new software. The length of time would depend on the extent of equipment needing to be changed and whether the new equipment would have the new software.</p> <p>Complexity is also an issue with handsets. Several manufacturers have expressed concerns regarding the inclusion of TTY upgrade software into handsets. Handsets typically have over one million lines of code. Adding</p>

	<p>additional code can result in unforeseen problems with installing software into handsets. Depending on the interaction between new code and the existing handset software, delays could occur once testing begins.</p>
Handset Acceptance Testing	<p>Acceptance testing is the period of time where manufacturers provide units to carriers to test for approval to sell. This is after BETA and PROTOTYPE testing. Handset acceptance testing must be successfully performed for each manufacturer's handset against each network vendor deployed by the service provider in its network. The more handset and network vendors used by an operator, the more complex the testing becomes.</p> <p>While no one expects any major issues to be found, it is never clear what can happen once acceptance testing begins. In the past, there have been times that adding small feature upgrades have caused major delays in handset acceptance. Fixing or adding one element can impact other mandatory features of the handset.</p> <p>During testing, minimal to major issues normally manifest themselves and most corrected. It is extremely difficult, if not impossible, to determine at this time if any issues could arise that would delay handset acceptance for a significant period. SBC Wireless has experienced issues where handsets have been delayed six months and longer due to problems that occur in acceptance testing.</p>
Software GA Operator Testing	<p>SBC Wireless tests all new software releases in our lab before attempting to deploy the release in any part of the network. This lab testing is extensive and done for ALL maintenance and feature releases in our networks. It is imperative that this is done to ensure the integrity of the network during the rollout period.</p> <p>Major issues may arise during testing which require the manufacturer to take the software back into its labs for further development. If this happens, the software would have to be re-tested in the SBC Wireless labs once the modified upgrade is received. This could cause delays from a few weeks to several months depending on the severity of issues discovered.</p> <p>It should be noted that TTY testing has never been done before. Those conducting the tests will be doing so for the first time. Issues may arise that have not been seen in the past.</p>

	This could cause further delays.
Software Rollout	<p>Once lab testing is completed and passed, software must be rolled out into the network in a phased approach. This reduces the risk to the entire network should a problem occur. Sections of the network, by network element, are upgraded and then tested.</p> <p>During this period, which usually takes up to six months, problems may occur that were unforeseen in lab testing. Live deployment is always different than static testing in the lab. Problems could arise that may delay the deployment from several weeks to several months depending on severity.</p>
SMART Cable GSM Centric	<p>There are several potential issues surrounding this accessory. Finding a production manufacturer and determining who will develop and market this product, be it each manufacturer or a third party, will need to be determined.</p> <p>Smart cable issues include the rate of power consumption (since the cable is going to be doing the processing) and determining the source of the power supply (i.e., self-powered which would make the cable more bulky, or powered by the handset which would increase battery drain and reduce talk time).</p> <p>Both of these issues could delay the launch of this accessory.</p>
PSAP Testing	<p>This issue was raised at the last TTY Forum and incorporates a process that was not considered previously by SBC Wireless. The wireless manufacturers and service providers are currently awaiting PSAP testing requirements and timelines from the emergency services community. It is uncertain what effect this will have on target launch dates.</p> <p>Launch delays could be encountered if the PSAPs are not ready to test and deploy the TTY solution due either to equipment or training shortfalls. The wireless industry and the PSAPs must work collaboratively to develop a process to ensure the PSAPs readiness for TTY testing and deployment.</p> <p>In addition, once operators are ready to test with PSAPs, it is possible that PSAPs could experience a scheduling logjam. Carriers, through no fault of their own, may face delays if PSAPs do not have technical staff or resources needed to test with different carriers and technologies on a widespread basis.</p>

Again, these are identifiable issues that have the potential to cause delays in the roll-out of the TTY solutions. SBC Wireless is committed to striving to attain any reasonable timeline set by the Commission, and believes that a fuller the understanding of the variables being faced by the industry will assist the Commission in setting such timeline and in dealing with issues that may arise.

Respectfully submitted,

A handwritten signature in cursive script that reads "Bruce E. Beard". The signature is written in black ink and is positioned above a horizontal line.

Bruce E. Beard

Cc: Thomas Sugrue
Karen Strauss
Elizabeth Lyle
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